

FIG. 1

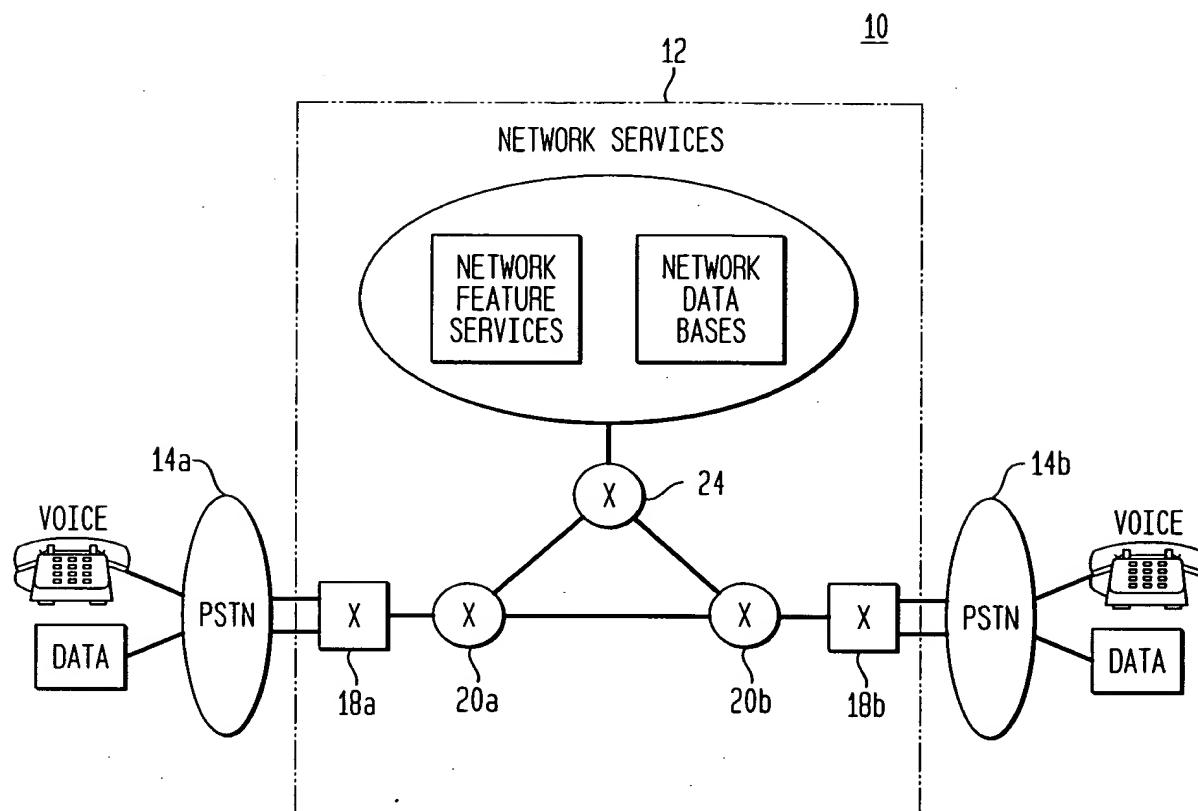


FIG. 2

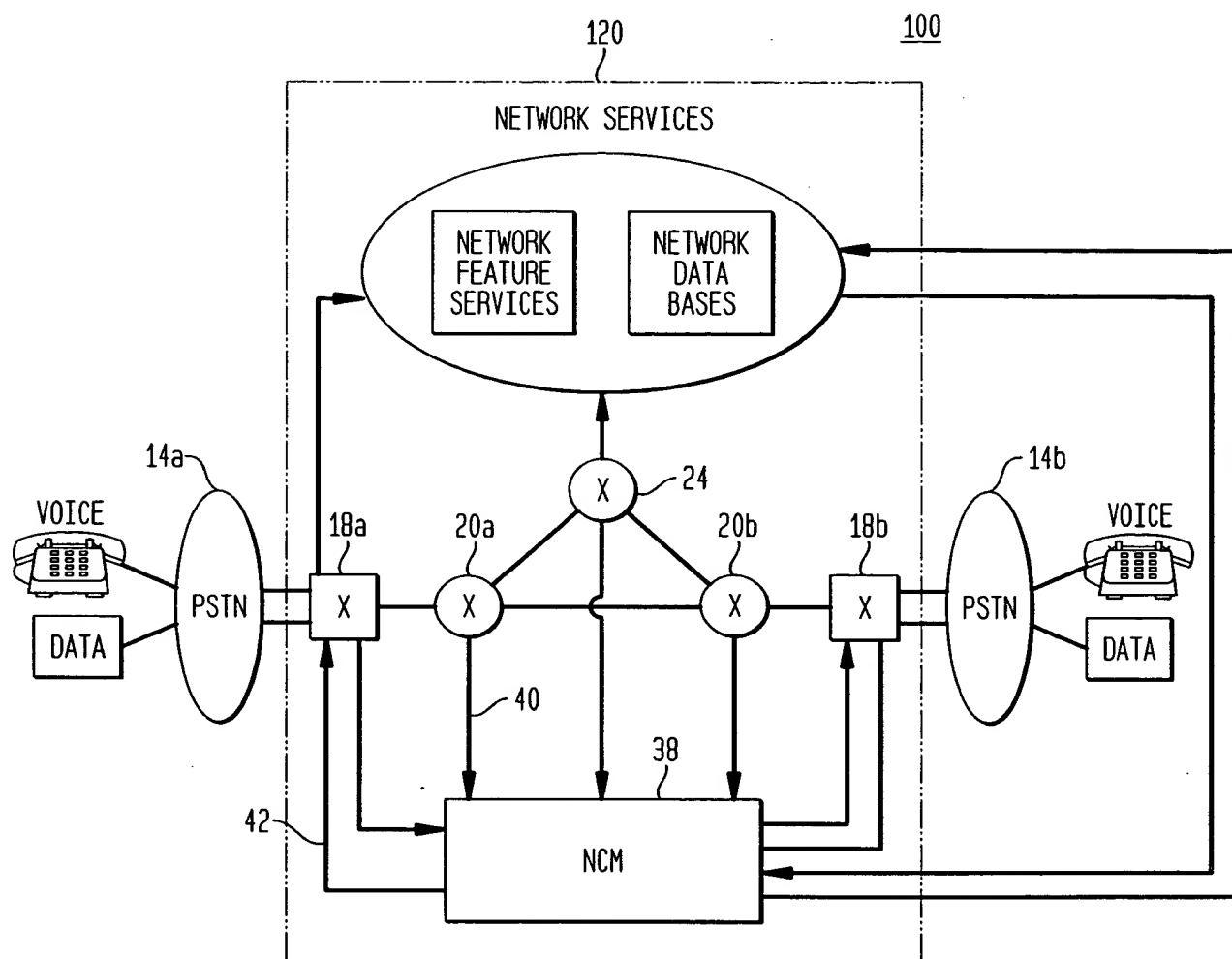


FIG. 3A

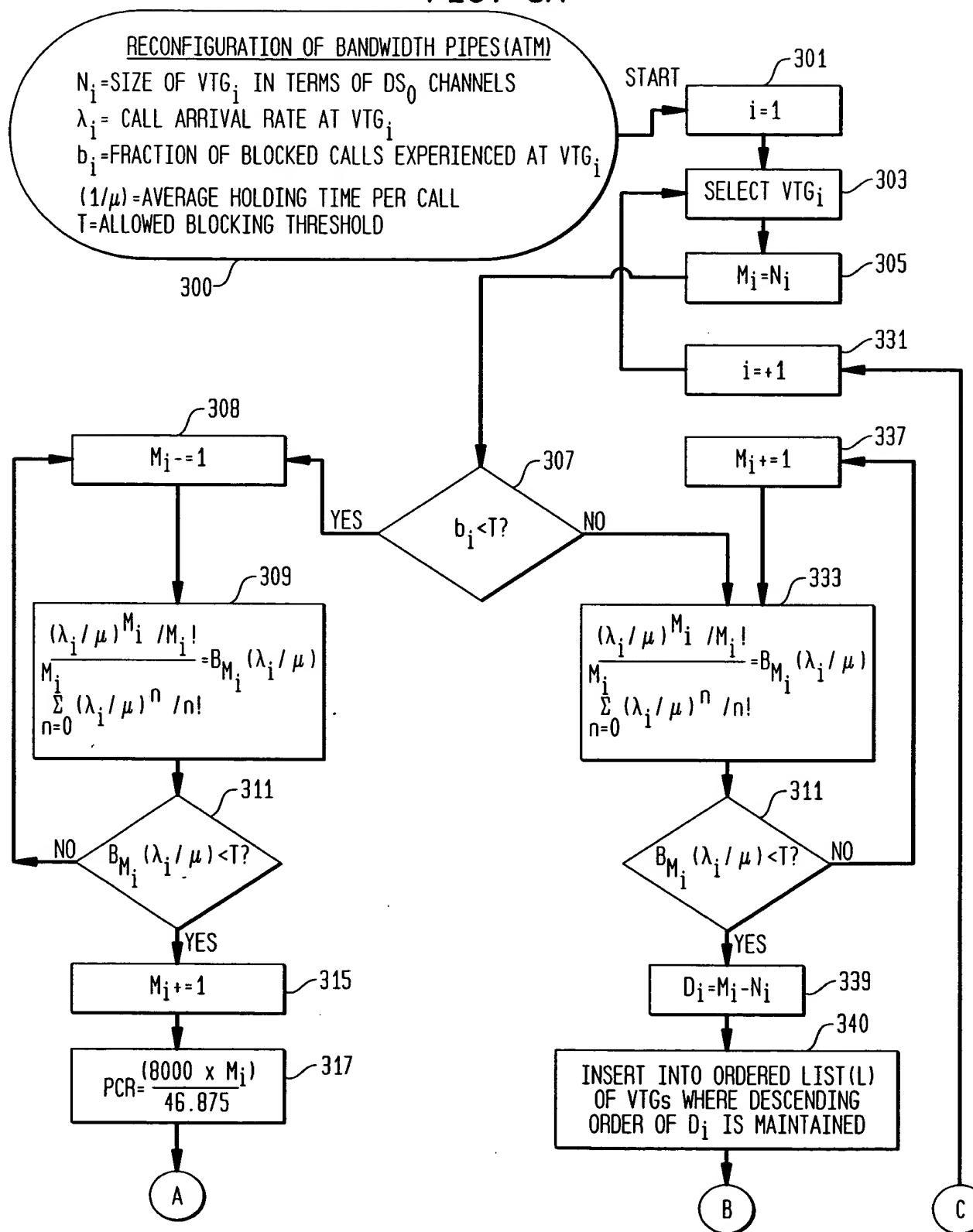


FIG. 3B

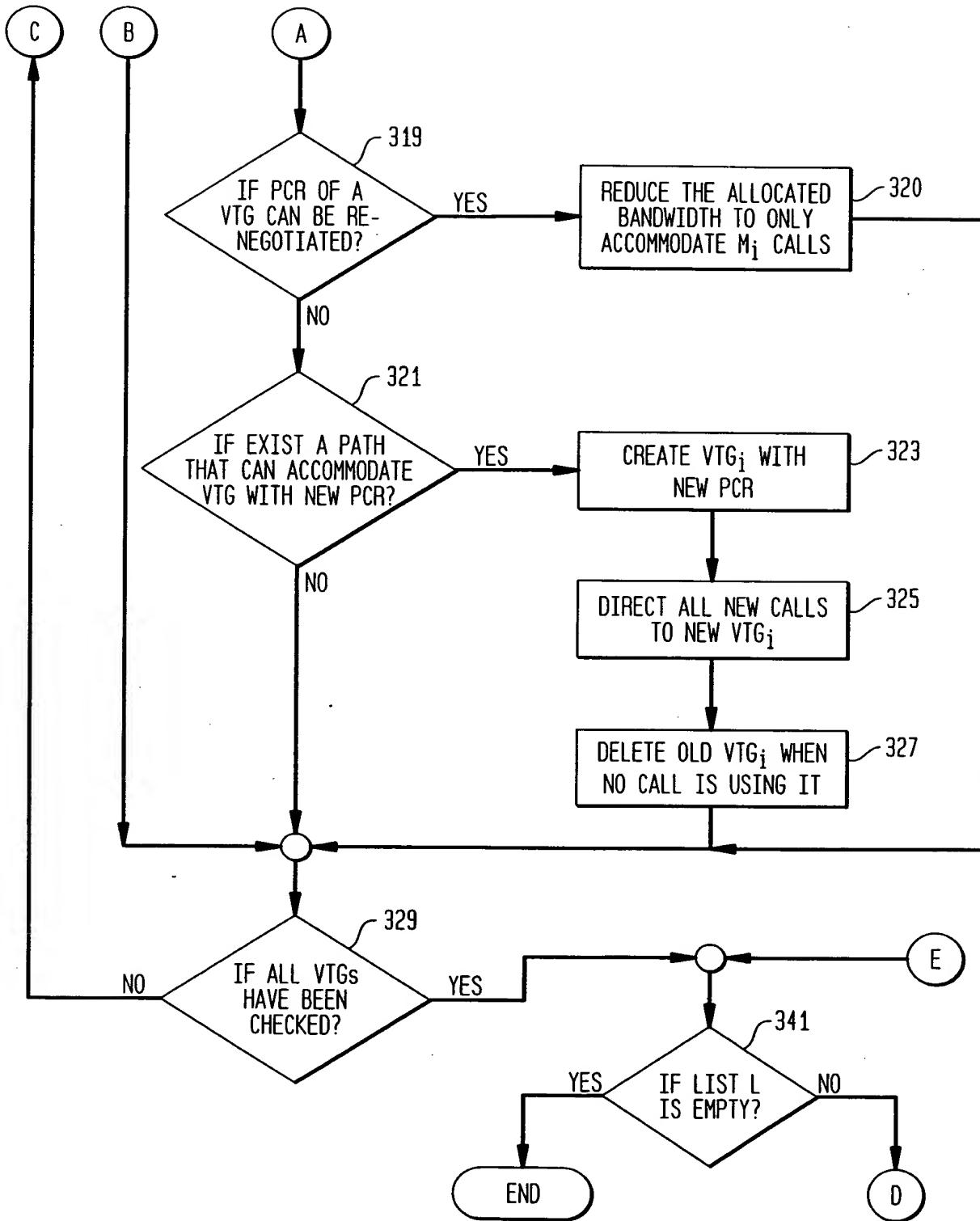
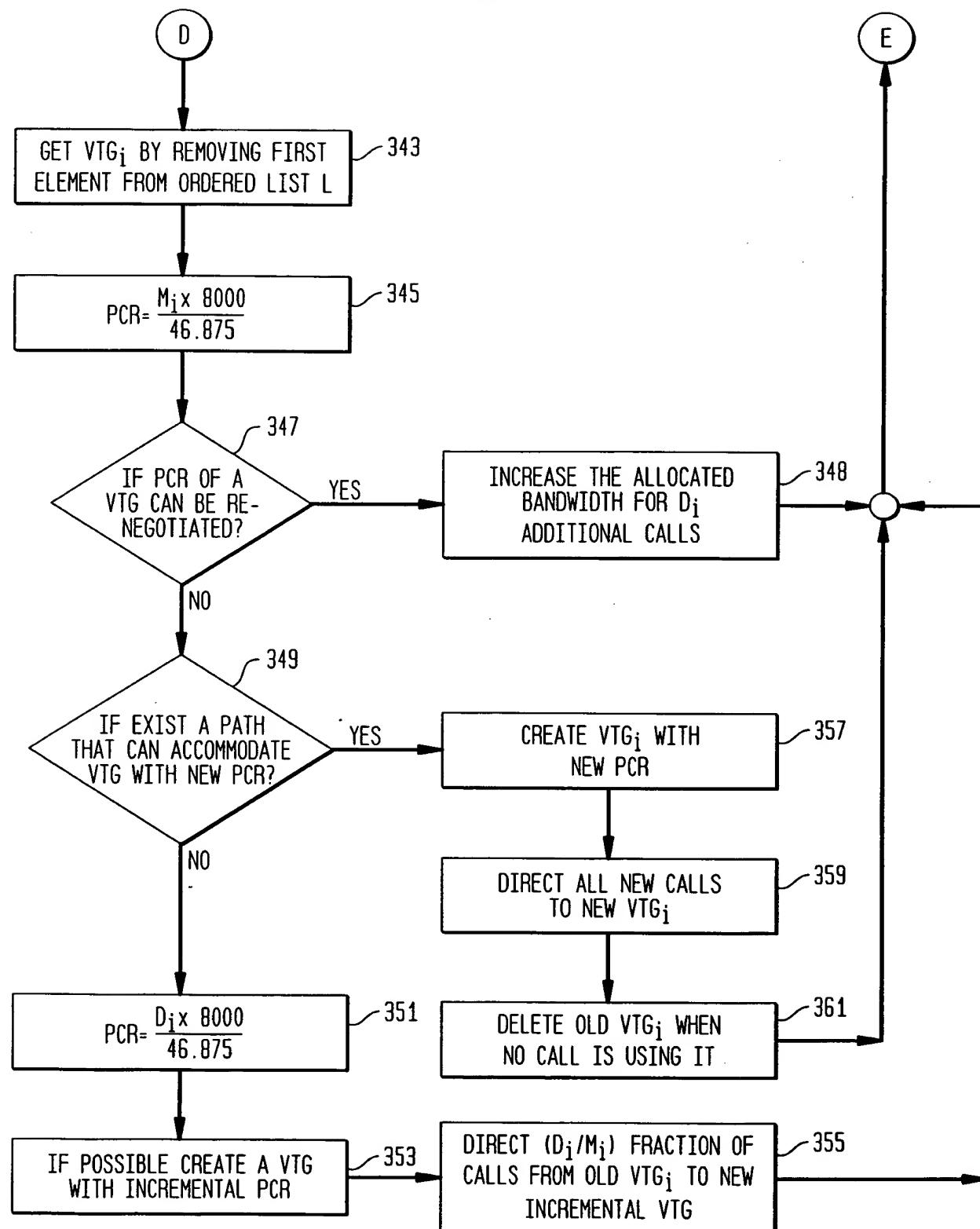
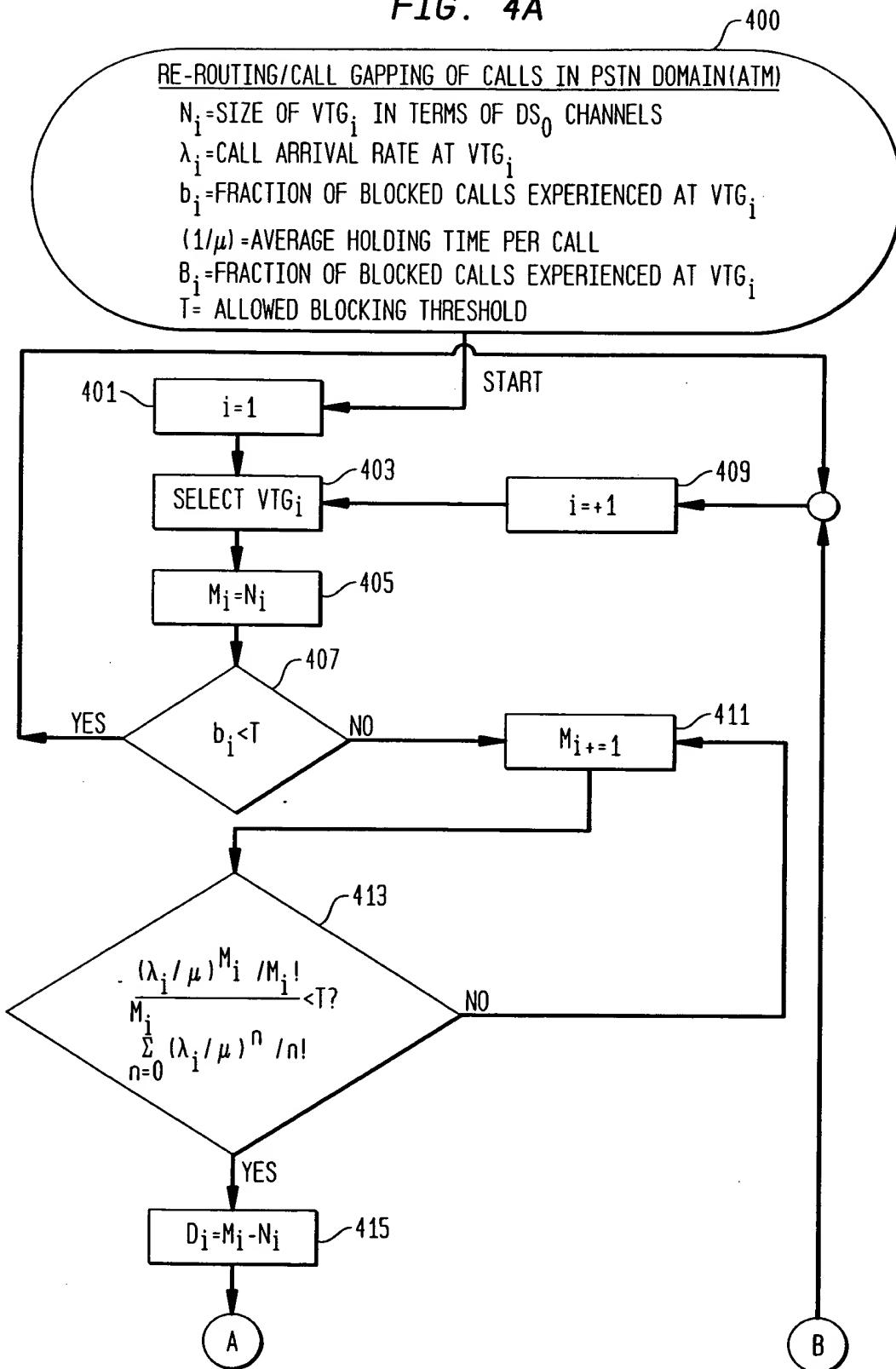


FIG. 3C



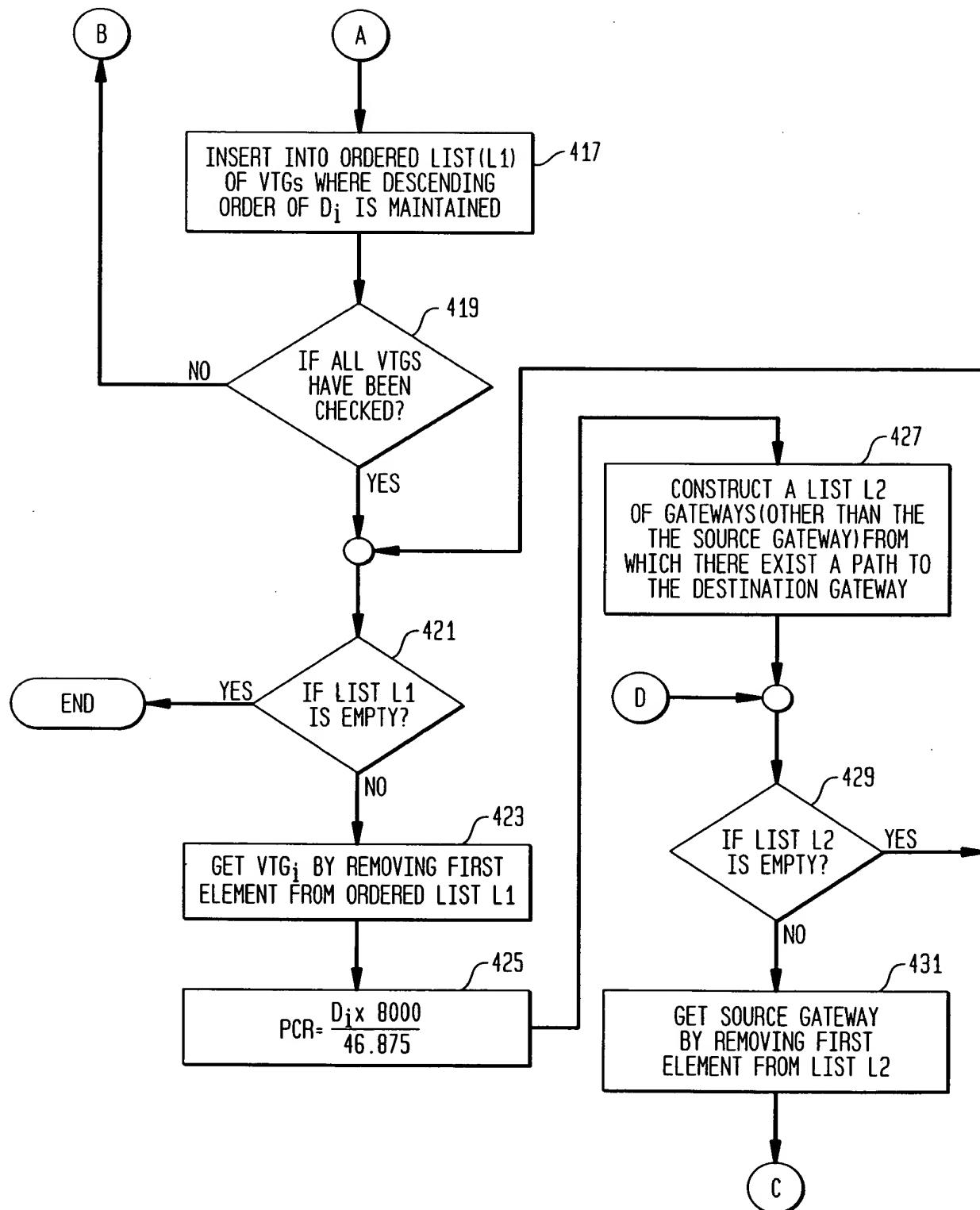
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FIG. 4A



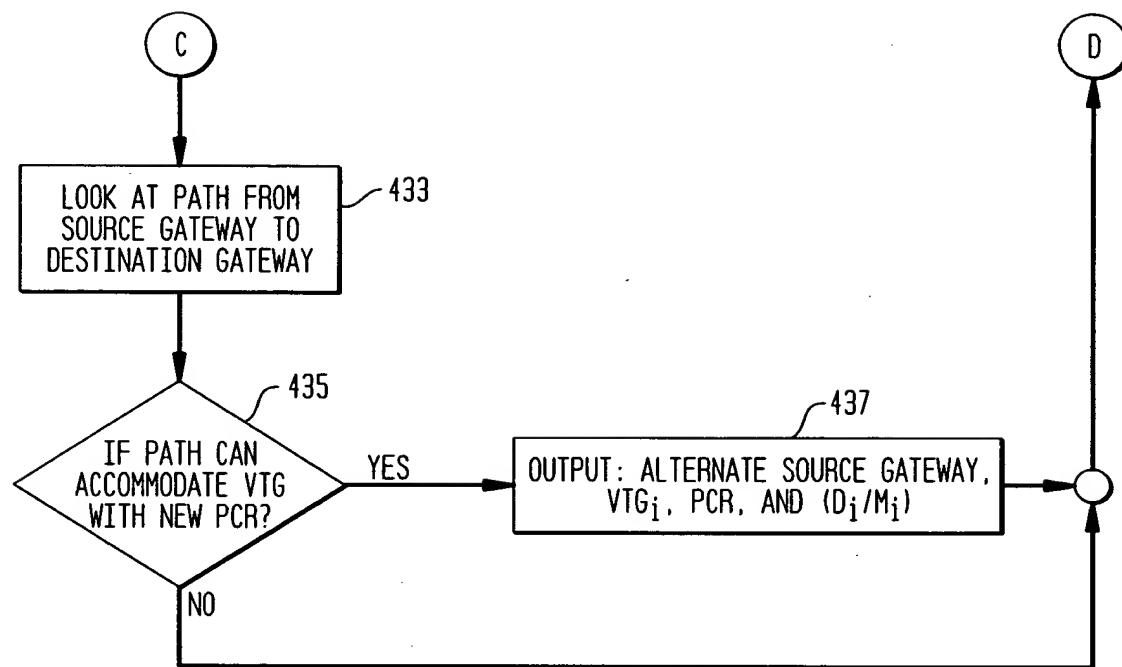
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FIG. 4B



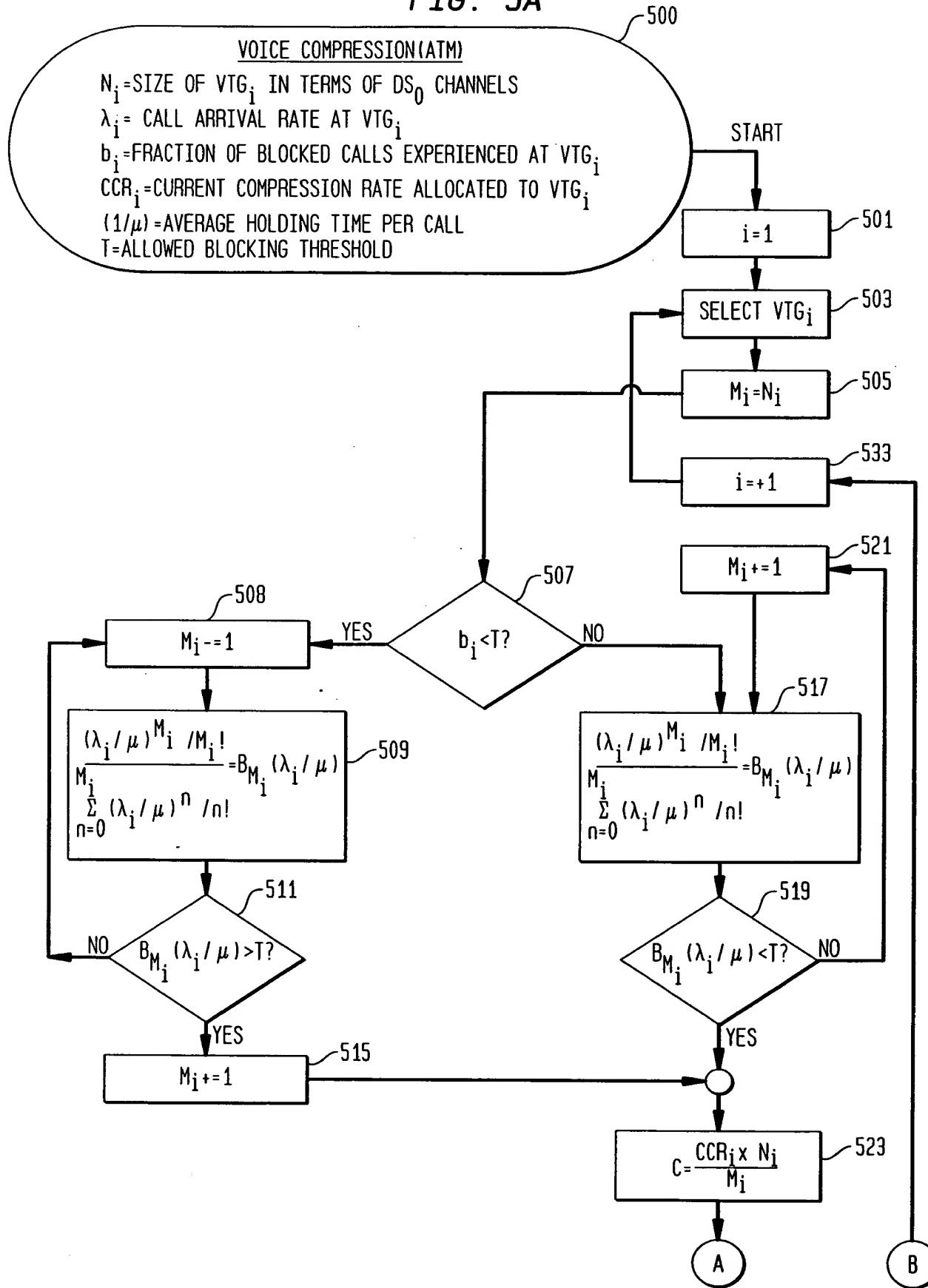
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FIG. 4C



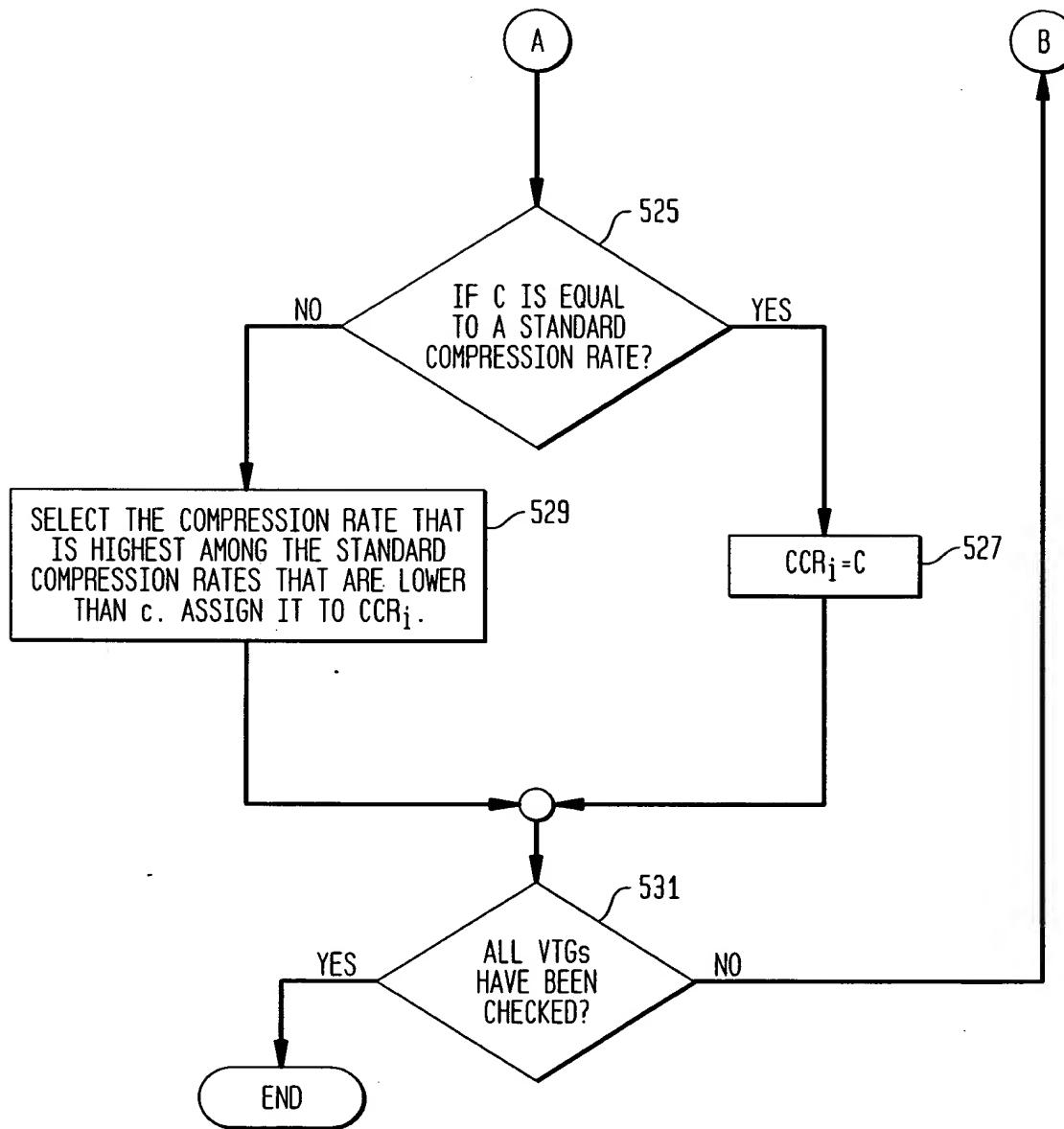
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FIG. 5A



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FIG. 5B



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**FIG. 6A**

600

CALL BLOCKING (UNAVAILABILITY OF RTP MEASUREMENTS)

$PU_i$ =UTILIZATION OF  $i^{\text{th}}$  PORT

$PC_i$ =CAPACITY OF  $i^{\text{th}}$  PORT

$U_t$ =UTILIZATION THRESHOLD

$\lambda_k$ =CALL ARRIVAL RATE FOR  $k^{\text{th}}$  PVG PAIR

$N_k$ =NUMBER OF CALLS FOR WHICH BANDWIDTH IS ALLOCATED TO  $k^{\text{th}}$  PVG PAIR

$p_{B_i}$ =BANDWIDTH REDUCTION CORRECTION FACTOR DUE TO THE  $i^{\text{th}}$  PORT

$p_{G_i}$ =BANDWIDTH INCREMENTAL CORRECTION FACTOR DUE TO THE  $i^{\text{th}}$  PORT

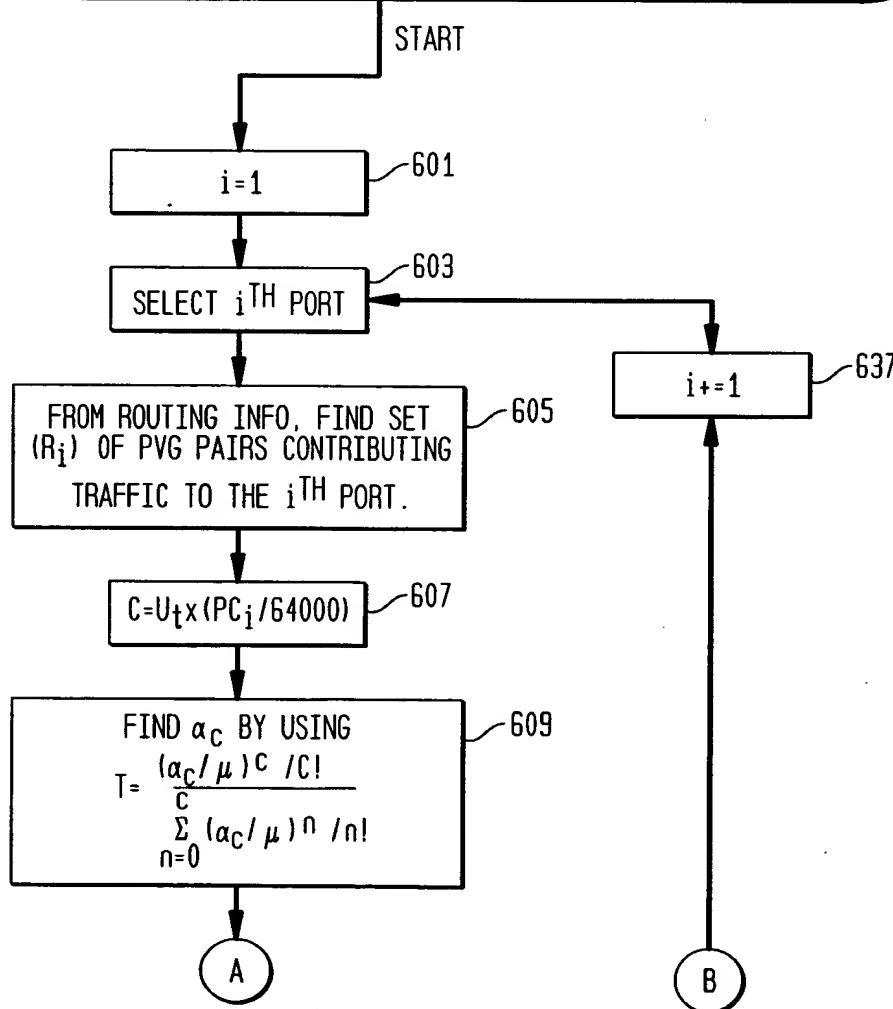
$f_k$ =BANDWIDTH REDUCTION CORRECTION FACTOR ASSIGNED TO THE  $k^{\text{th}}$  PVG PAIR

$e_k$ =BANDWIDTH INCREMENTAL CORRECTON FACTOR ASSIGNED TO THE  $k^{\text{th}}$  PVG PAIR

$B_k$ =ASSIGNED BLOCKING PROBABILITY TO THE  $k^{\text{th}}$  PVG PAIR

$(1/\mu)$ =AVERAGE CALL HOLDING TIME

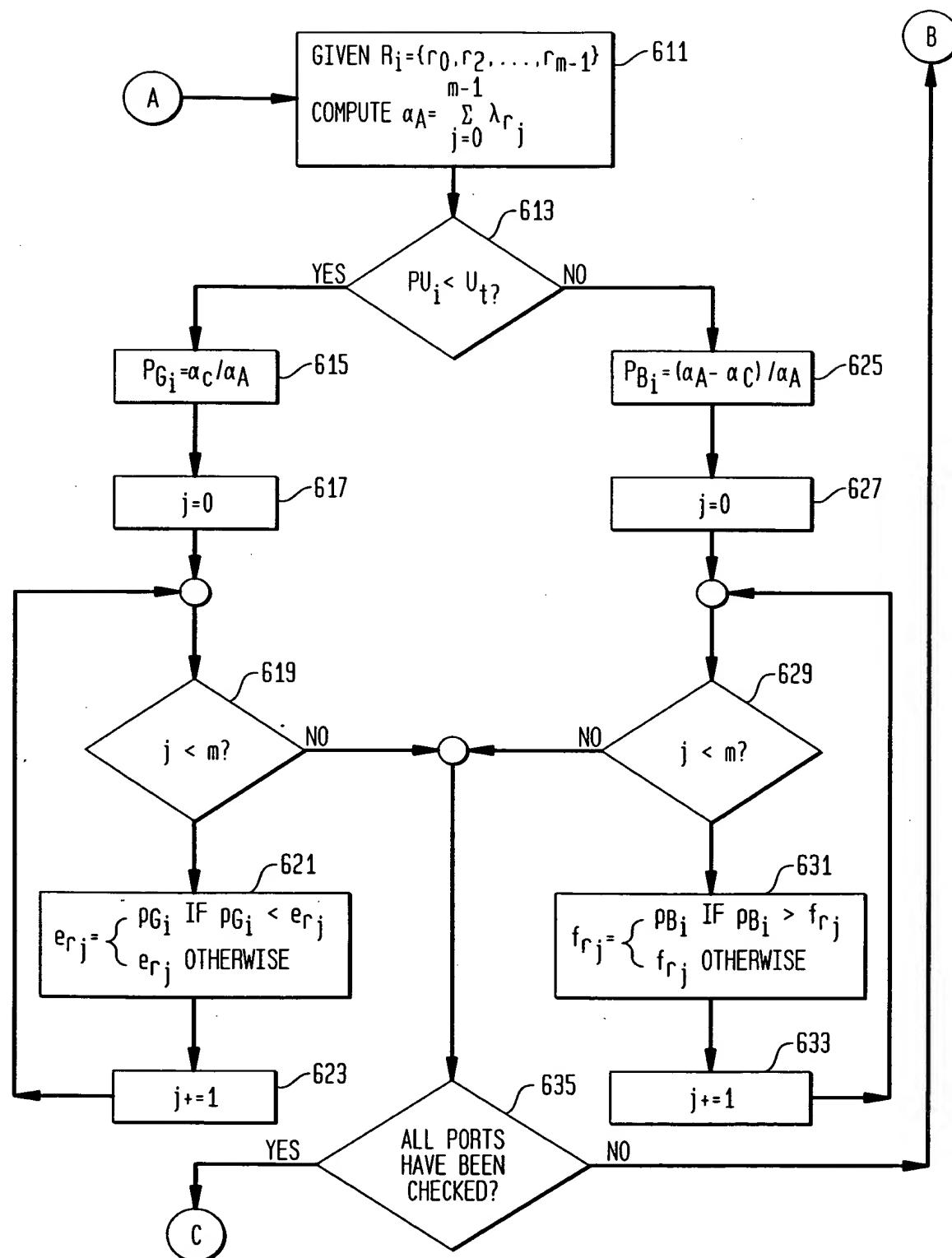
T=BLOCKING THRESHOLD



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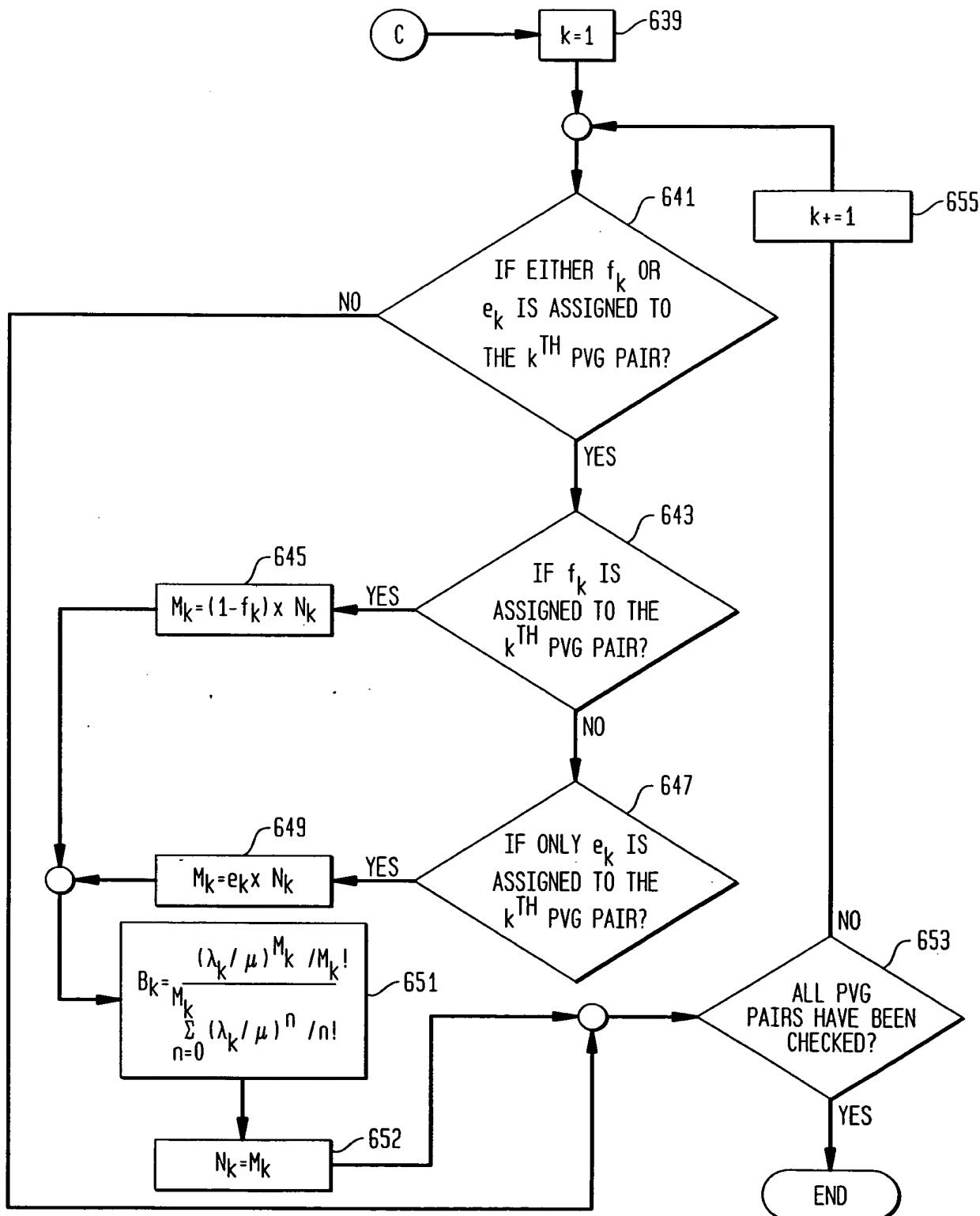
FIG. 6B



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FIG. 6C



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FIG. 7A

CALL BLOCKING(AVAILABILITY OF RTP MEASUREMENTS)

$L_c$ =FRACTION OF PACKET LOSS PER CALL

$L_t$ =PACKET LOSS THRESHOLD

$D_c$ =DELAY JITTER PER CALL

$D_t$ =DELAY JITTER THRESHOLD

$N_i$ =NUMBER OF ACTIVE CALLS IN  $i^{\text{th}}$  PVG PAIR

PVGPAIR<sub>i</sub>= $i^{\text{th}}$  PVG PAIR

S=SET OF PVG PAIRS BETWEEN WHICH POOR PERFORMING CALLS EXIST

P=SET OF ALL PVG PAIRS

$F_i$ =INDICATOR FLAG FOR PVGPAIR<sub>i</sub>

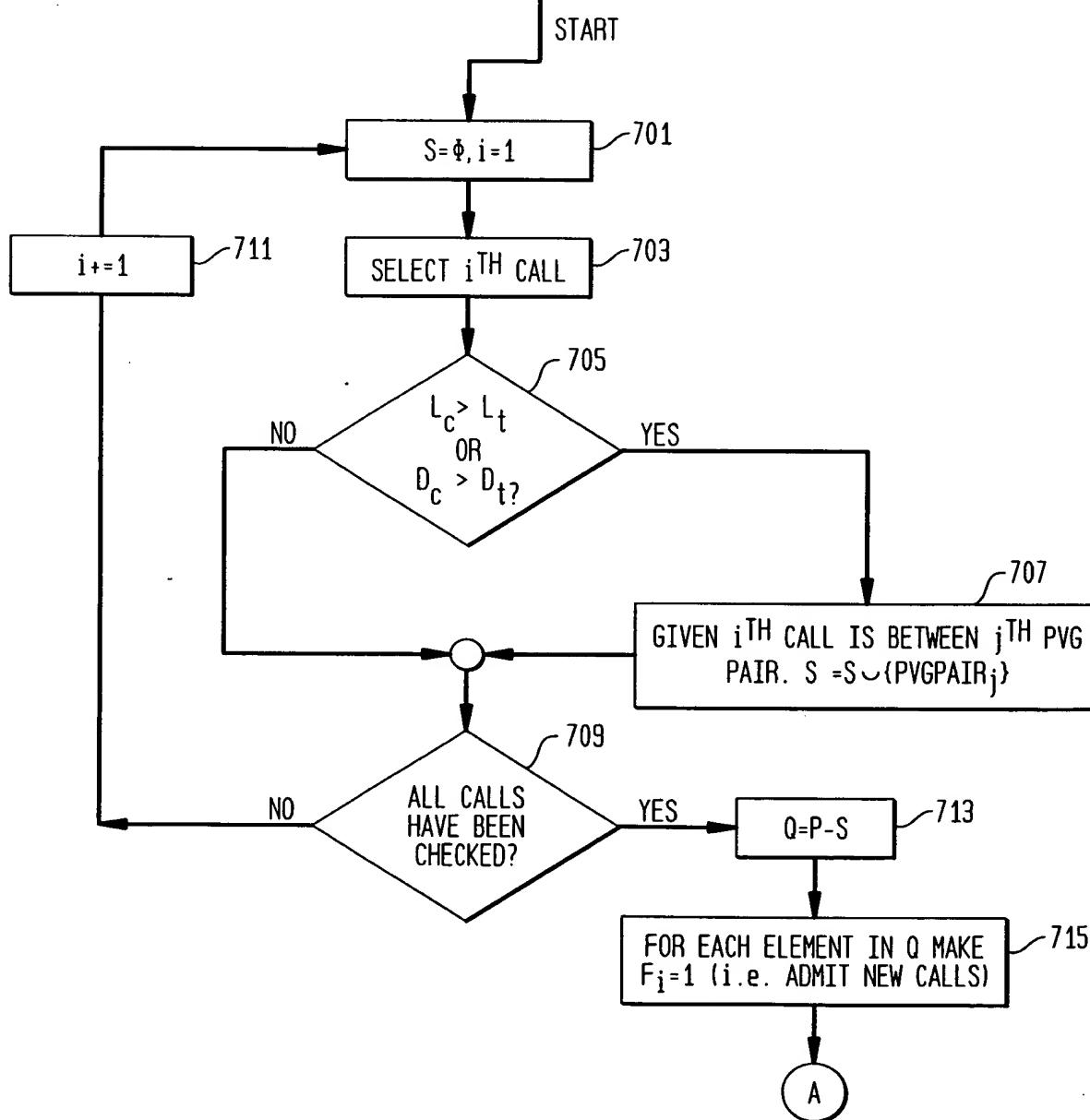
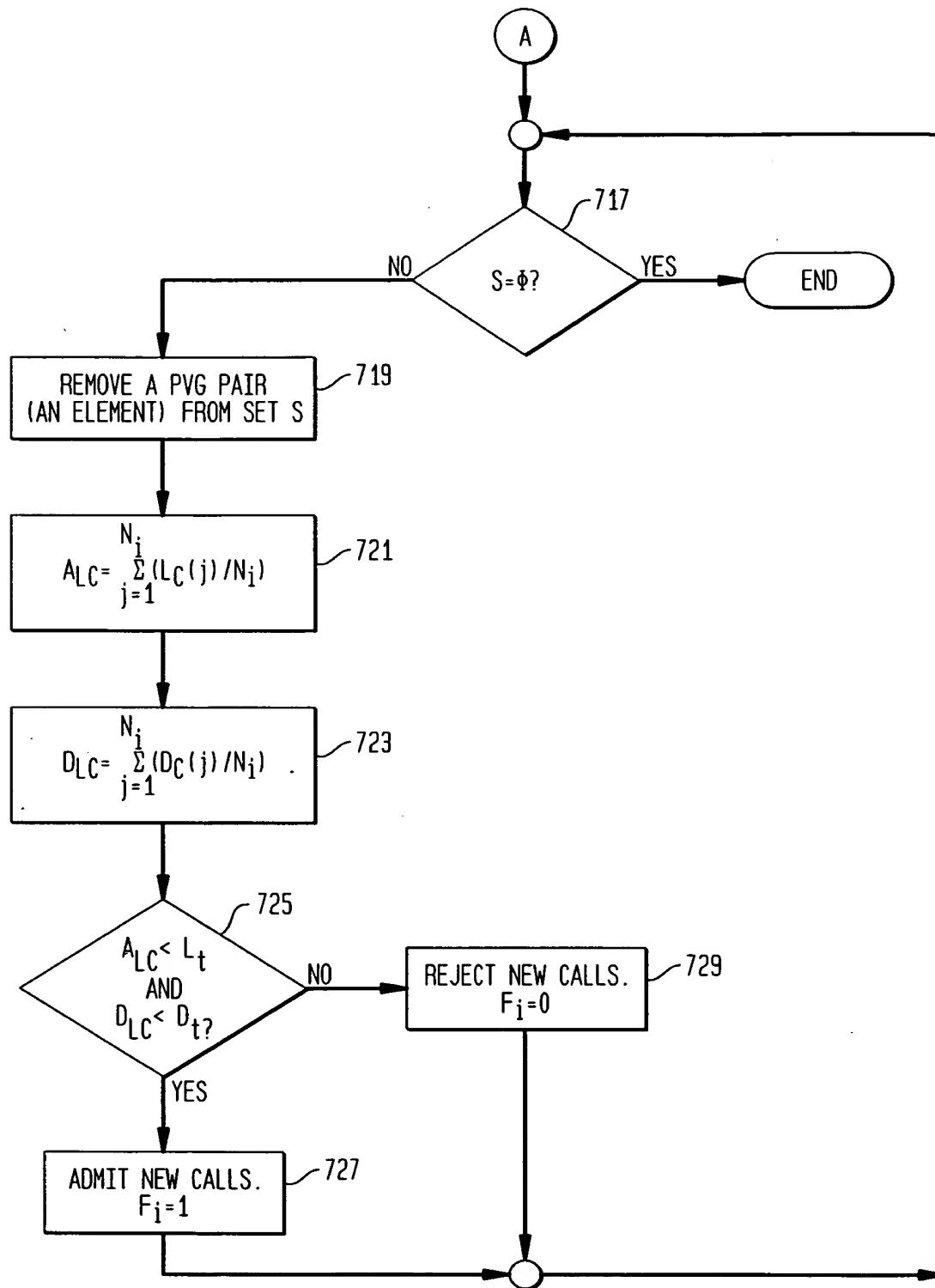


FIG. 7B



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FIG. 8A

800

RE-ROUTING/CALL GAPPING(AVAILABILITY/UNAVAILABILITY OR RTP MEASUREMENTS)

$PU_i$ =UTILIZATION OF  $i^{\text{th}}$  PORT

$PC_i$ =CAPACITY OF  $i^{\text{th}}$  PORT

$U_t$ =UTILIZATION THRESHOLD

$\lambda_k$ =CALL ARRIVAL RATE FOR  $k^{\text{th}}$  PVG PAIR

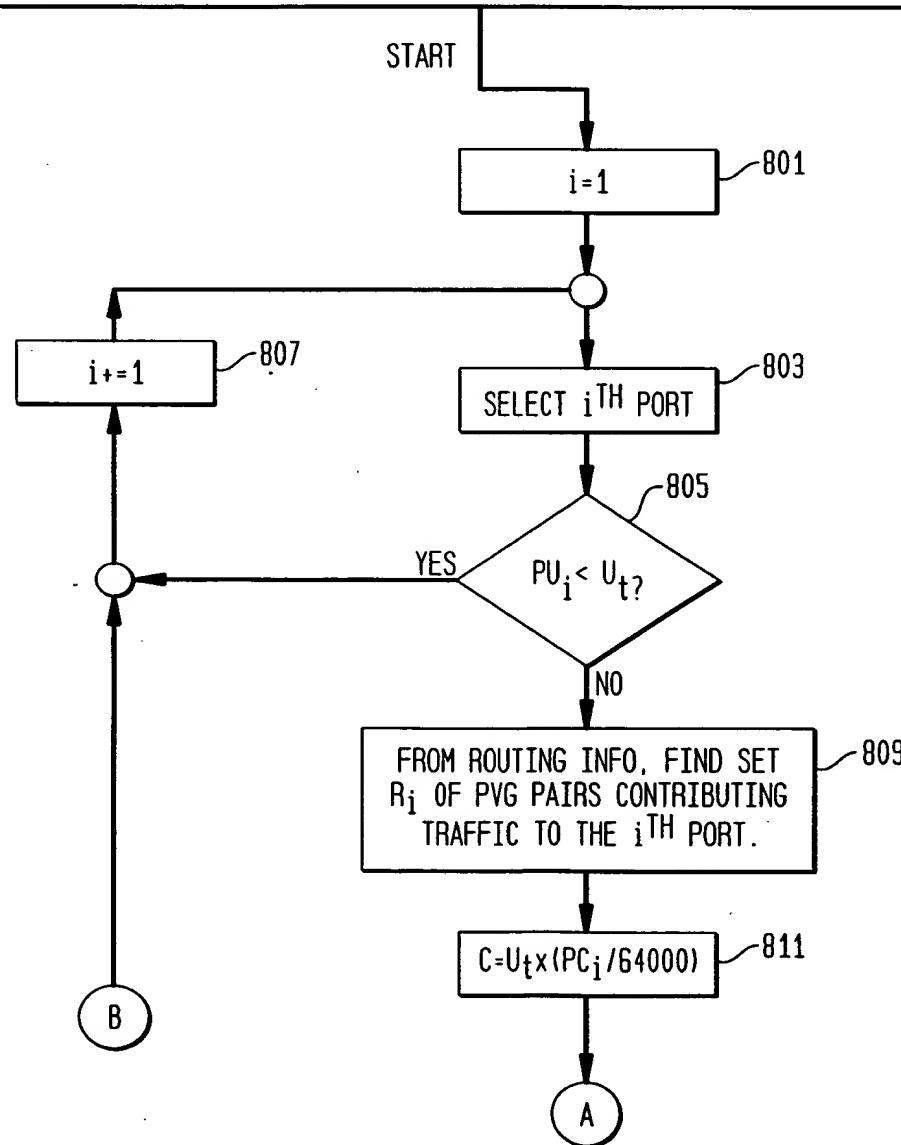
$N_k$ =NUMBER OF CALLS FOR WHICH BANDWIDTH IS ALLOCATED TO  $k^{\text{th}}$  PVG PAIR

$(1/\mu)$ =AVERAGE CALL HOLDING TIME

$p_{B_i}$ =BANDWIDTH CORRECTION FACTOR DUE TO  $i^{\text{th}}$  PORT

$f_k$ =BANDWIDTH CORRECTION FACTOR ASSIGNED TO THE  $k^{\text{th}}$  PVG PAIR

T=BLOCKING THRESHOLD



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FIG. 8B

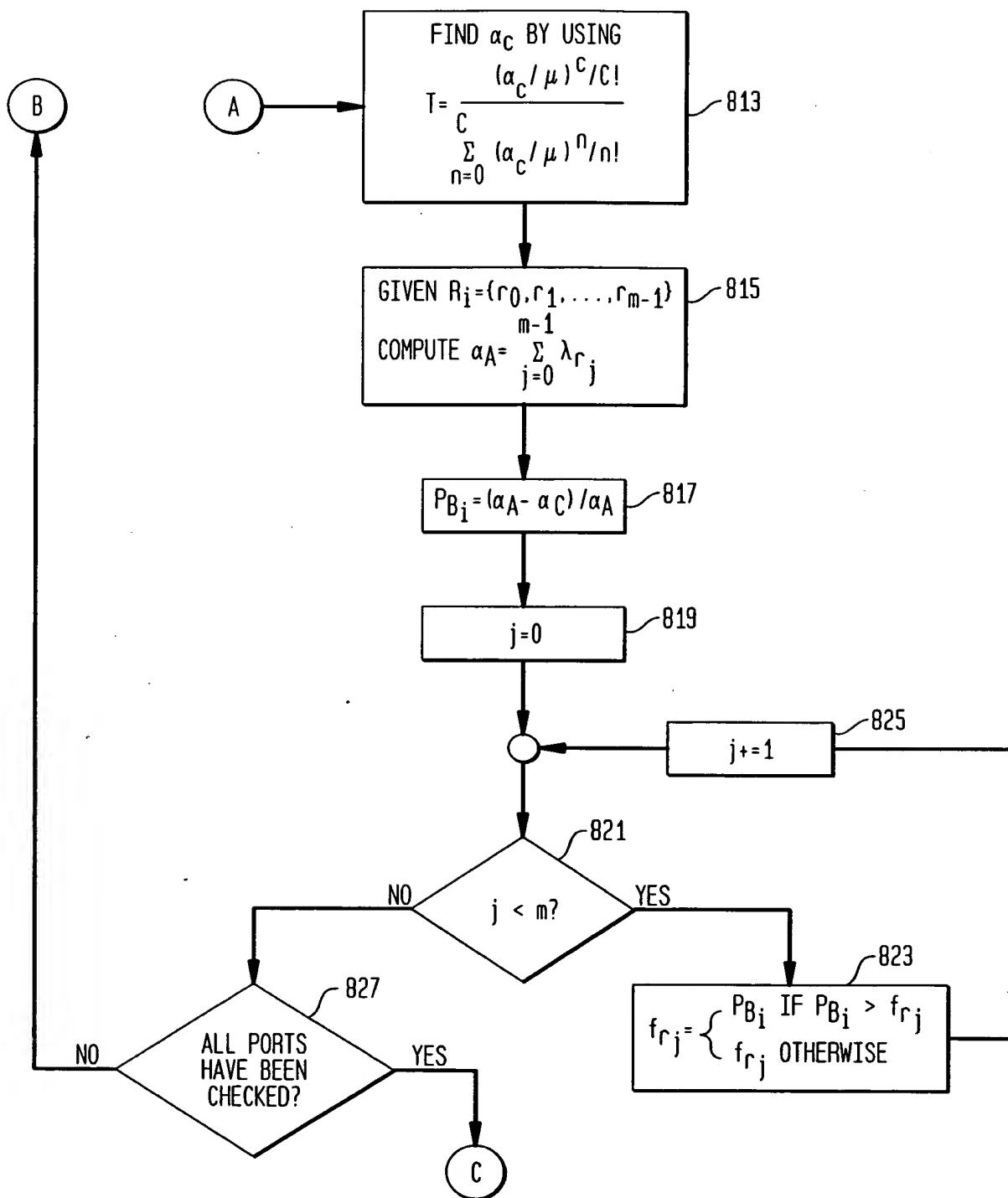


FIG. 8C

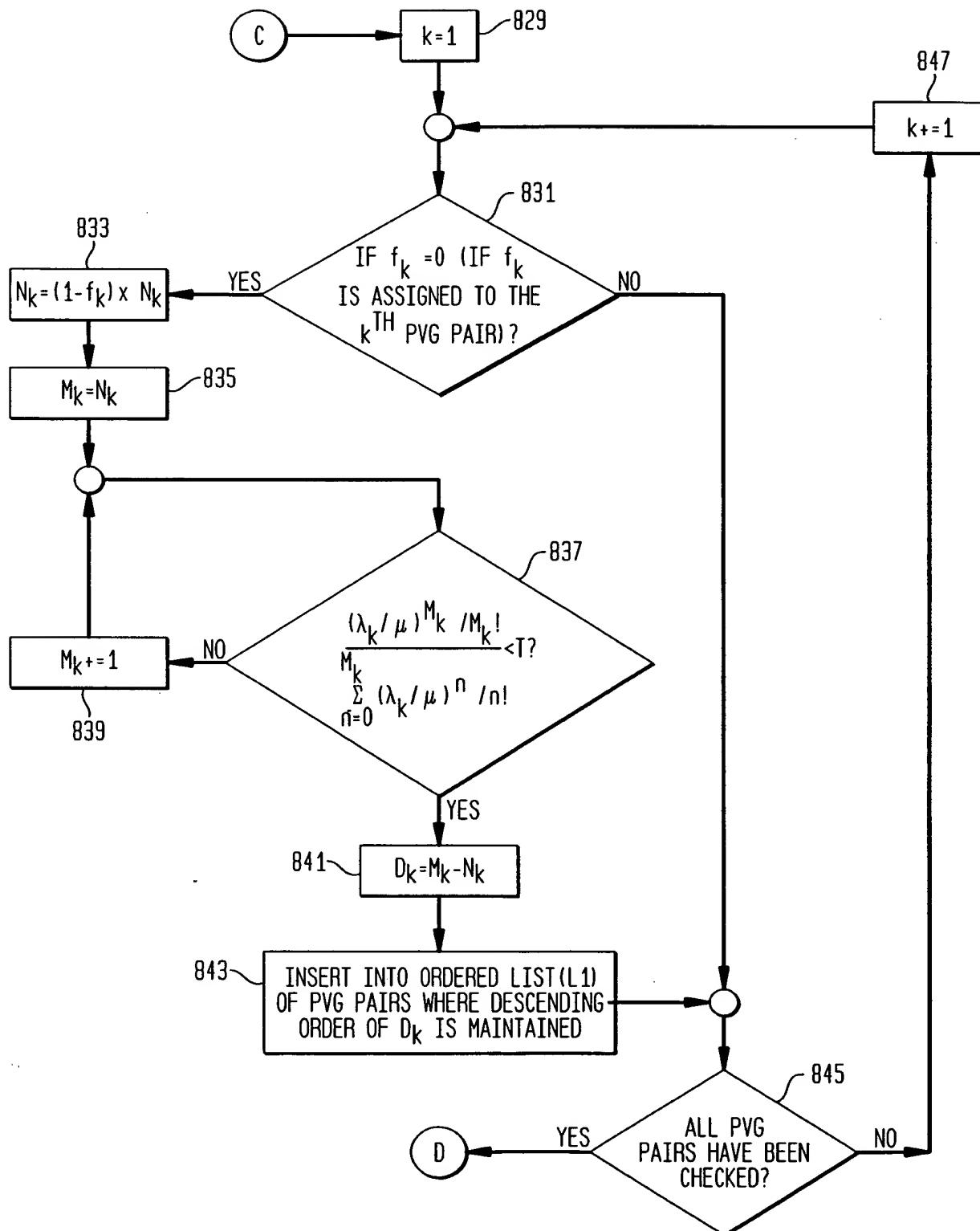
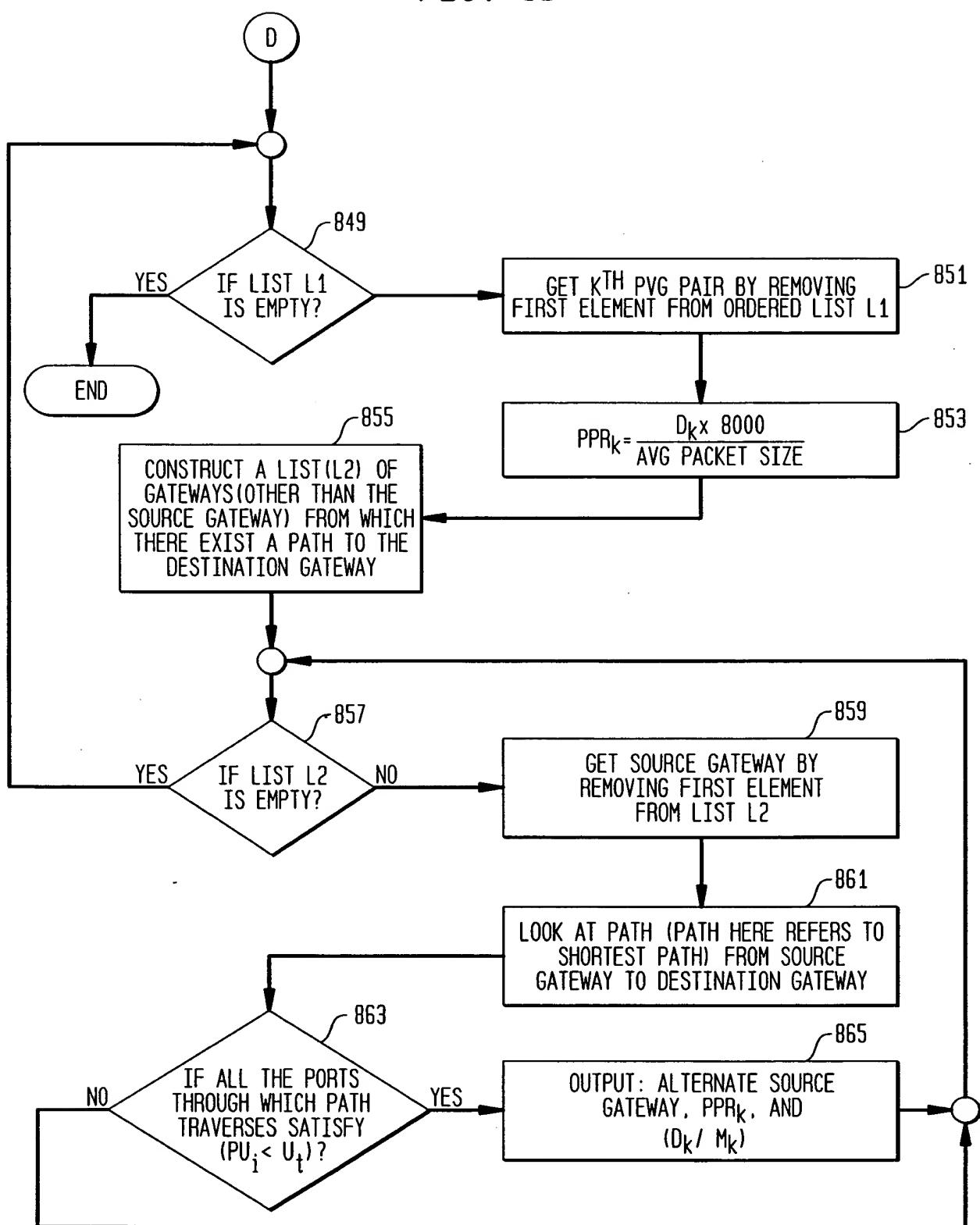


FIG. 8D



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FIG. 9A

900

COMPRESSION (AVAILABILITY/UNAVAILABILITY OF RTP MEASUREMENTS)

$U_i$ =UTILIZATION OF  $i^{\text{th}}$  PORT

$PC_i$ =CAPACITY OF  $i^{\text{th}}$  PORT

$U_t$ =UTILIZATION THRESHOLD

$\lambda_k$ =CALL ARRIVAL RATE FOR  $k^{\text{th}}$  PVG PAIR

$N_k$ =NUMBER OF CALLS FOR WHICH BANDWIDTH IS ALLOCATED TO  $k^{\text{th}}$  PVG PAIR

$CCR_k$ =CURRENT COMPRESSION RATE ALLOCATED TO  $k^{\text{th}}$  PVG PAIR

$p_{B_i}$ =BANDWIDTH REDUCTION FACTOR DUE TO THE  $i^{\text{th}}$  PORT

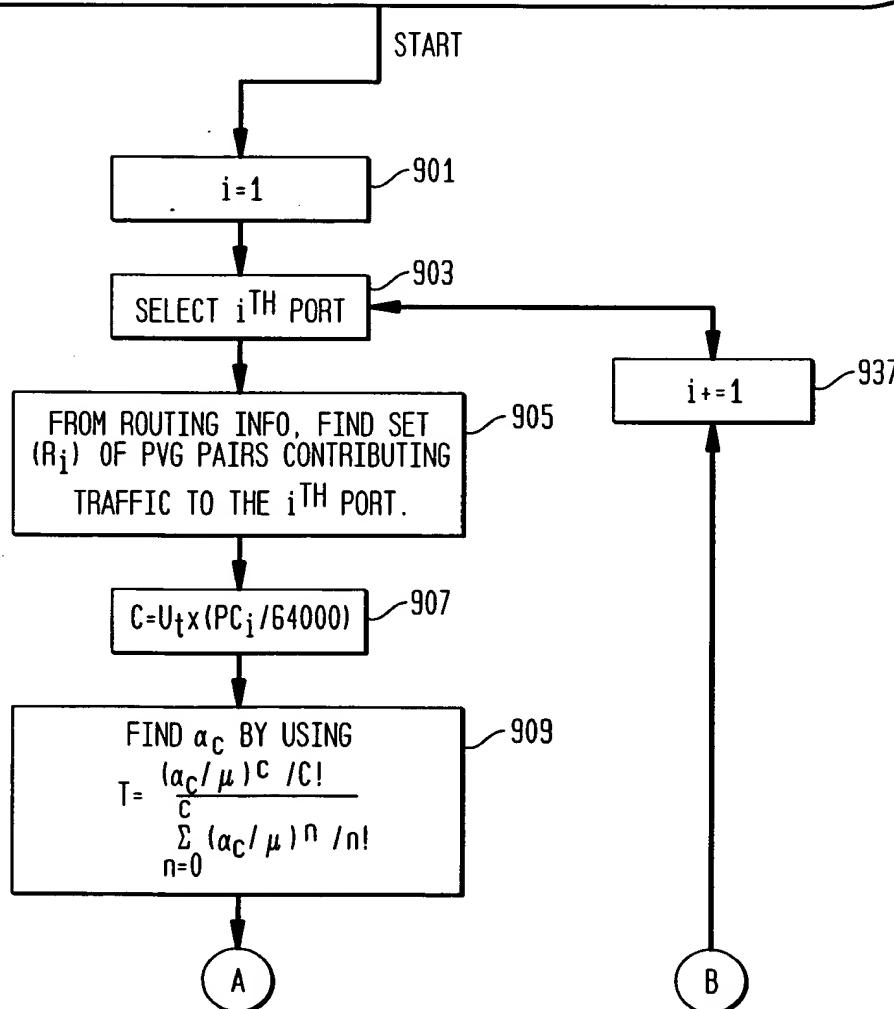
$p_{G_i}$ =BANDWIDTH INCREMENTAL FACTOR DUE TO THE  $i^{\text{th}}$  PORT

$f_k$ =BANDWIDTH REDUCTION CORRECTION FACTOR ASSIGNED TO THE  $k^{\text{th}}$  PVG PAIR

$e_k$ =BANDWIDTH INCREMENTAL CORRECTON FACTOR ASSIGNED TO THE  $k^{\text{th}}$  PVG PAIR

$(1/\mu)$ =AVERAGE CALL HOLDING TIME

T=BLOCKING THRESHOLD



A

B

FIG. 9B

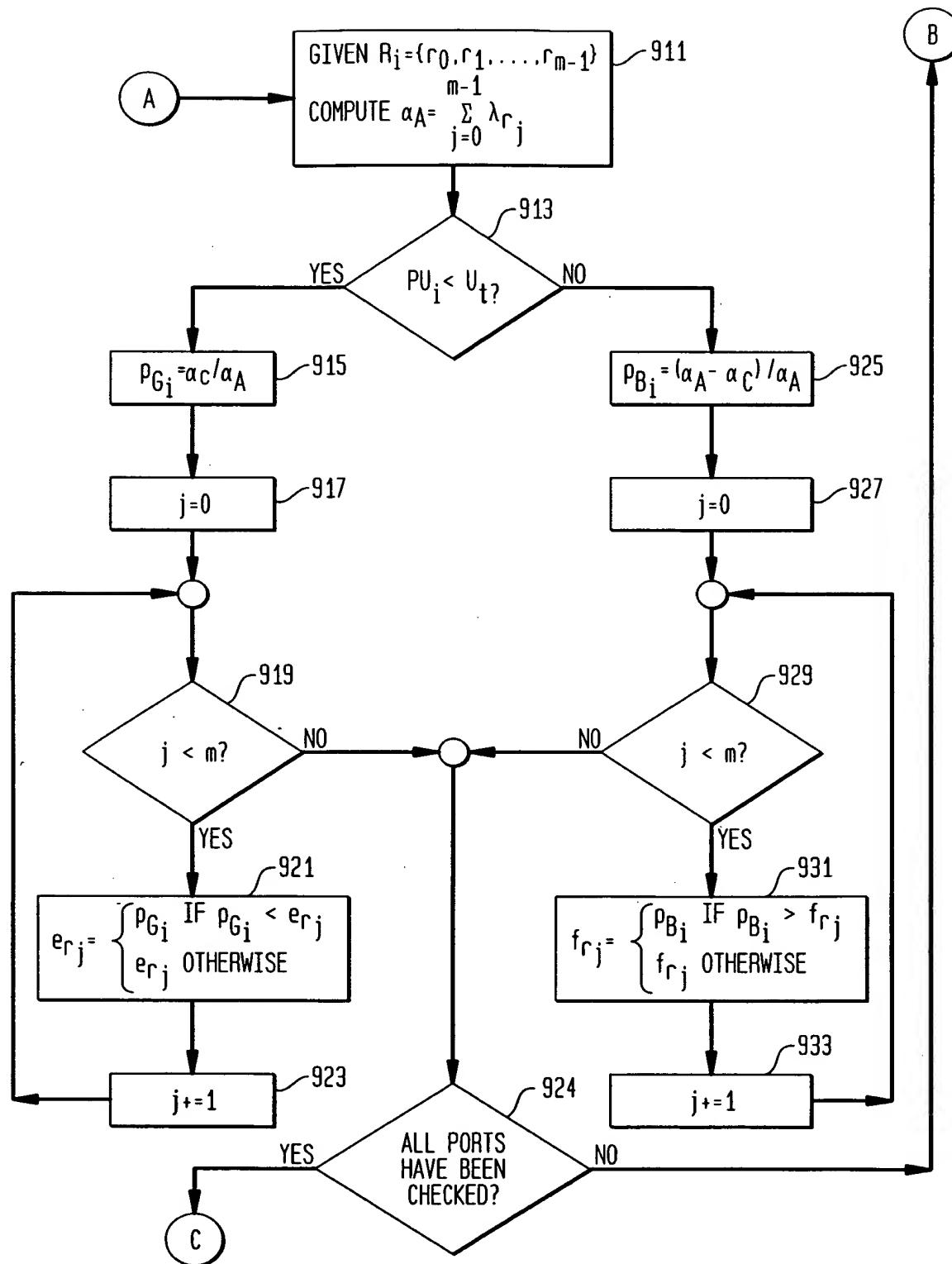


FIG. 9C

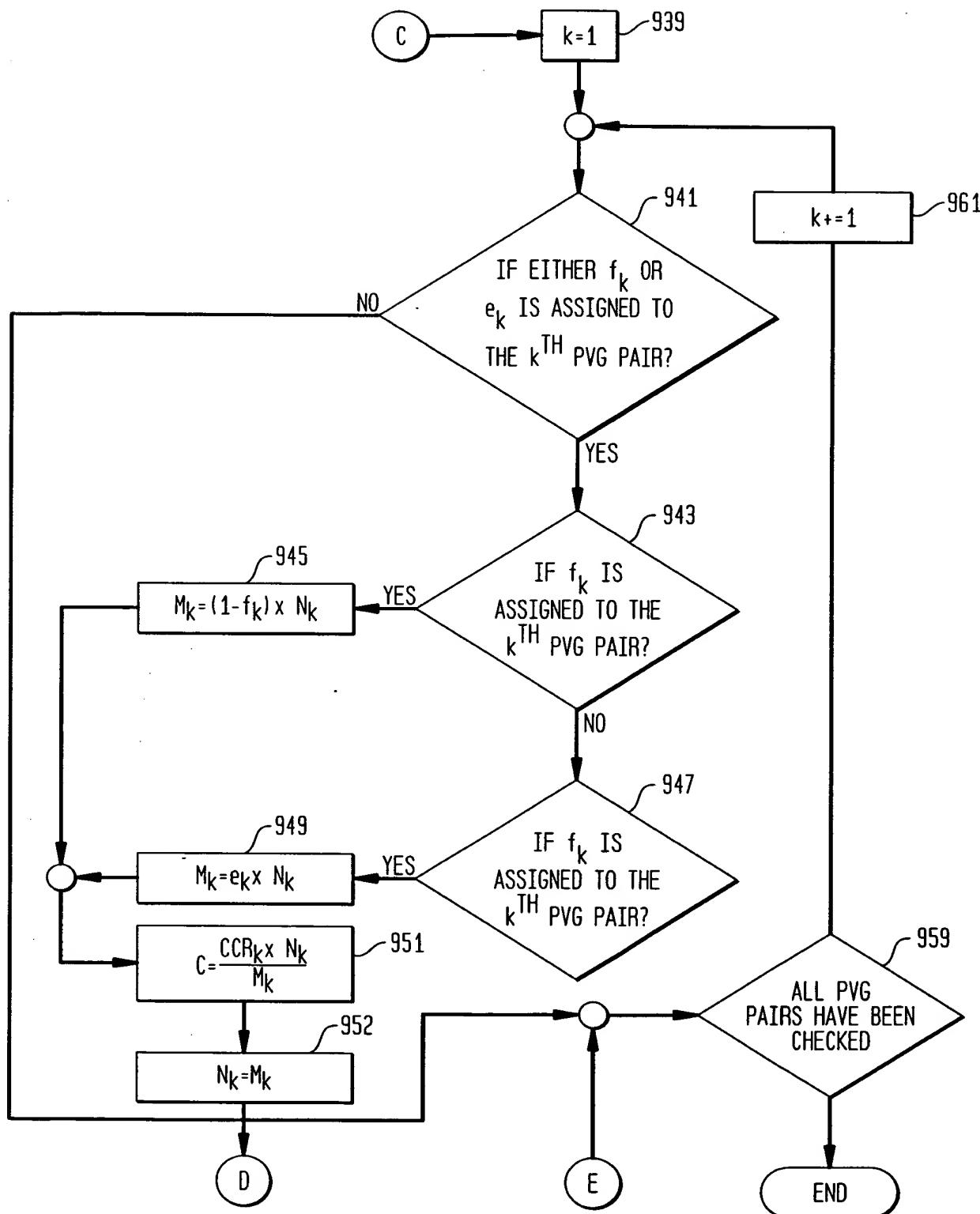


FIG. 9D

